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ABSTRACT

This step-by-step guide helps communities think and talk about school renewal through innovative planning and design, and high quality construction. It begins with an overview of need and available funding, then describes potential members of a school-improvement team. These include: architects, state school agents, community groups, local elected and appointed officials, bankers, engineers, developers and lawyers. How an experienced architect enhances value is described, as well as options for saving time and money on school projects. Guidelines for planning a school is set out in six discussion elements: (1) structural condition; (2) environmental quality; (3) size and capacity; (4) safety and security; (5) site location; and (6) symbolic value and aesthetics. References for further information are included. Local American Institute of Architects components that can help communities in finding an experienced school architect are listed by state and city. (JM)

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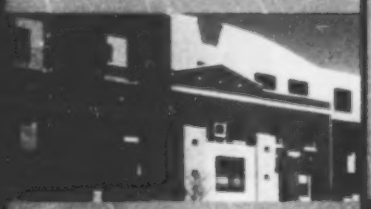

REINVIGORATING OUR SCHOOLS

To get the best additions, renovations, and new construction for your school funds tomorrow, you need to plan today.

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This is a guide to help you think and talk about renewing your schools through innovative planning and design and high quality construction. The two steps to start with are:

- Identify your problems and feasible solutions
- Bring in people who can keep the ideas rolling.

Get interested and involved people together to talk. Bring in as many people as necessary and as early as possible. When it comes to finding out what ideas are likely to work, the longer you wait, the higher the cost to redirect your efforts.

Over the next five years, enrollments at public elementary and secondary schools in the U.S. are projected to grow by 1.3 million students, according to the U.S. Department of Education. Many school districts are already at or near capacity due to both growing population and students remaining in school longer.

School construction costs are averaging $10,000 to $12,000 per student for elementary schools, slightly higher for junior high schools, and $15,000 to $18,000 per student for high schools.

These projections indicate a need of well over $20 billion in new K-12 school facilities over the next five years.[2] This is in addition to the $112 billion the U.S. General Accounting Office identified in 1996 as necessary to return existing school facilities to a good overall condition and bring them into compliance with federal mandates.

UNITED STATES DEPARTMENT OF EDUCATION

THE SECRETARY

October 1998

The first *Baby Boom Echo* report issued by the U.S. Department of Education in September 1996 described the record breaking number of children who would be attending our schools for the next ten years. This boom in student enrollment is different than those in the past because there will be continuous growth rather than growth that plateaus after a few years. These steady increases are putting a strain on school systems and school facilities that is being felt by teachers, administrators, and students.

Several recent studies and reports have described the dismal condition of many of our public school buildings and the immediate need for repair and modernization of these facilities. The crumbling infrastructure of our current school facilities, coupled with the demand for more schools and classrooms as a result of the "baby boom echo" and the demands of technology, has heightened the importance of improved approaches and strategies for repairs, modernization, and the building of new schools. It has also made everyone aware of the costs.

All of these reports have brought a new awareness of the problem. They have been the catalyst for a new dialogue and new relationships among organizations that have not worked together on education issues. One of these has been between the U.S. Department of Education and The American Institute of Architects.

Reinvigorating Our Schools is an example of the growing awareness of the need for, and the issues involved in, school construction as well as the important role communities have in planning school improvement. I applaud efforts like *Reinvigorating Our Schools* that are aimed at helping communities understand these complex issues and the strategies that may be employed to address local school building design and construction needs.

Guides like *Reinvigorating Our Schools* and a new Department publication entitled *A Citizen's Guide for Planning Schools as Centers of Community* are useful resources for communities that are engaged in planning for modernization of existing or designing new school buildings.

I want to thank The American Institute of Architects for sharing its expertise with the Department to assist in planning the *National Symposium on School Design: Schools as Centers of Community*.

Richard W. Riley

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Our mission is to ensure equal access to education and to promote educational excellence throughout the Nation.

Where is the money? Traditionally, schools are built and operated with local funds supplemented, in most cases, with state revenue. Recently, there have been a number of legislative initiatives in Congress to provide substantial federal support for upgrading schools.

An example is the Taxpayer Relief Act of 1997. The Qualified Zone Academy Bonds the act created may already be available for renovating schools in your state.

The program provides $400 million in federal tax incentives per year for 1998 and 1999 to financial institutions that underwrite school programs. In lieu of interest, those institutions receive federal tax credits. That translates to zero-interest bonds for school districts taking advantage of this program. State allocations are based on population and poverty rates. *Contact your state education agency to ask when and how the program is working in your state and whether it can work for you.*

Additional legislation proposed in 1998 has been aimed at freeing billions of additional dollars for school-facility renewal. For up-to-date information on federal legislation related to school construction funds, call the AIA, (202) 626-7384.

Stretch your bond dollars. If you've gone through the long, laborious procedure of getting voters to pass a general obligation bond for schools in your district, you know how precious every dollar is. Use it wisely.

Rural Rutherford County, N.C., for example, passed a $24 million bond in the early 1990s to replace its 75-year-old high school. The new school was completed for $22 million. The county also needed an upgraded middle school for 675 students, projected to cost $6 to $7 million to build new.

By renovating an abandoned school rather than constructing a new one, Boney Architects saved Rutherford County, N.C. up to $5 million.

Boney Architects worked with the school district to renovate the abandoned high school completely for $2 million. The architect's strategy allowed the county to use the unspent money from the new high school to create a modern, computer-networked middle school with no need for additional school-construction appropriation.

If opportunity knocks . . . Public private partnerships offer a source of funds that can substantially reduce the need for public debt financing. Not every school has the opportunity to pursue such partnerships. It is definitely worth exploring, though, with school-improvement resources so scarce.

In Washington, D.C., the 72-year-old James F. Oyster Bilingual Elementary School was in drastic need of repair. The city had no way to fund renovation, so a group of parents — including two mothers with expertise in real-estate development and school design, Mary Filardo and Sarah Woodhead, AIA — found another way.

A private developer will take possession of the school's 1.7-acre site and build a luxury apartment building on one half and an enlarged, up-to-date new school on the other.

Under the financing arrangement — worked out with the school board, city council, D.C. financial control board, and Congress — the developer will pay off the $11 million school construction cost over 30 years in lieu of property taxes on the apartment complex. So the apartment building generates tax revenue that otherwise would not have been available, which pays for a new school that otherwise would not have been possible.

Taxes from apartments (background) on former school land will pay for this new school. The designers were CHK Architects and SVERDRUP Facilities Inc.

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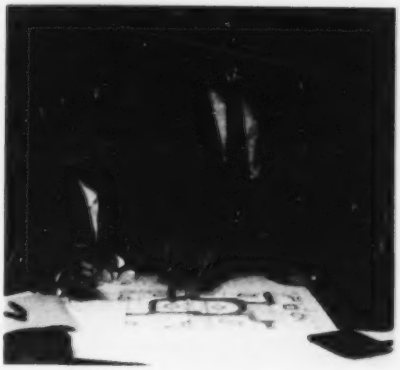
There are highly experienced architects and other professionals working in or near your community who know what works and does not work in getting funding, where to put critical activities to create the best possible learning environments, studying life-cycle cost considerations for energy and maintenance efficiency, purchasing materials and systems, and getting high-quality construction.

A key person on your school-improvement team who is professionally bound to serve in your best interest and has the education and experience to guide you through the entire process is your architect. Brad Colwell, assistant professor of educational administration at Southern Illinois University, emphasized the importance of this expertise and client duty in the March April 1998 *Illinois School Board Journal*. "The selection of a quality architect" he wrote," is essential to a successful building project."

Savings across the board from a well-designed building translate into real money to invest in faculty, supplies, and improved learning opportunities for students. The entire community benefits from a school improvement plan under the guidance of an experienced architect. Other people who can help you include:

Your state school agency: There are trained, informed people at the state capital who can answer your questions on the state school construction program and availability of funds, how you go about applying for them, qualification requirements, and applicable laws. They can also explain the process — or refer you to someone else who can — on petitioning and campaigning for a local bond referendum and assembling a planning, design, and construction team.



State school agency staff know how regulations apply to you.

Community groups: One of the most important tasks in improving school systems is engaging the community and earning the support of the people who, in all likelihood, will be voting on whether to pay the lion's share for the improvements. Families with children have to believe that the effort and expense

The experienced architect works closely with school representatives to determine the needs and desired outcomes, plan the budget and schedule, design a school that matches expectations and fits the context of the community and site, and monitors the progress of construction. He or she may be able to help you move in and operate the facility and keep it in top condition.

The contractor is another important team member monitoring quality, cost, and schedule.

will improve the K-12 learning environments. People without children in K-12 schools will want to understand the value to them of school improvements.

Your local elected and appointed officials: The value cannot be overstated of close communication among school-improvement groups, the school board, and the town or county council to get the process started and keep it moving. The input and experiences of these individuals will save considerable time and effort for a PTA or other group advocating school enhancements.

Bankers: Knowing what kind of information you will need to assemble and in what form is crucial for securing financing at the best possible interest rates. Bank officers can advise you on the school district's bond rating, the pay-back term of the bond issue, the strength of the bond market, and the availability of underwriters.

Engineers: Engineers are the specialist experts. They work closely with the architect and advise on elements such as structural soundness, mechanical equipment, electrical loads and supplies, connections to water and sewage, road building, heating and air conditioning, and fire-suppression systems.

Developers: The best way to find out if there is a possibility of a public private partnership is simply to ask a few developers.

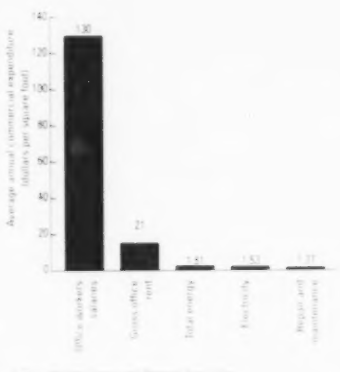
Lawyers: You may wish to consult with one or more lawyers concerning deed searches, liability issues, advice on your insurance and other contract negotiations, help with bond referendums, and, essentially, anything that involves the law.

Well before construction begins, careful planning and design ensure that the value of every school dollar is measured in benefit to students and community.

Finding an Experienced Architect. The cost of predesign planning and site-specific design represents significantly less than one percent of the total cost — construction and life-cycle — of a building. Thus, a design carefully suited to the specifics of use, site, available infrastructure, and climate will pay for itself many times over in energy savings and reduced operation and maintenance costs. The flexibility and life-cycle cost savings of fitting design to site and intended use is a compelling reason to hire an architect based on experience and ability.

Because architects provide a vital professional service, many states require qualifications-based selection (QBS), which requires selection on the basis of design-team experience. By basing the selection on quality rather than who is the lowest bidder, public entities get more value as their schools — which are likely to have a 40-year lifespan — are conceived and created.

Architectural services go well beyond producing the design documents. At the outset of a school-improvement project, an architect on the planning team helps focus preliminary ideas on real-world issues. Architects also can serve the client by administering the construction contract (watching the construction and payment schedules and making site visits to see that what was planned is what gets built).



A good architectural design will save enough in lowered energy and maintenance costs over the typical 40-year school life cycle to pay for itself many times over. Further, as this chart shows, a design will reap enormous savings if it increases staffing efficiency. Maximizing passive observation of student activities, thus requiring fewer security-related staff, is an example, as is bringing in healthful fresh air and daylight, reducing faculty absenteeism. Money saved in operating buildings means more resources for teaching children.

In some instances, architects can help you save time and money by using prototype plans or a kit of parts. The strategies are similar.

Prototypes are construction documents an architecture firm has created with site adaptability in mind. Often one or more schools based on the prototype design have been built, which you can look at. The architect keeps those plans on file as one option for future clients.

A kit of parts involves plans for a set of modules (e.g., auditorium, cafeteria, school rooms, storage areas, and labs) that can be fit together as needed to create a fairly standardized, yet still site-specific design for a school.

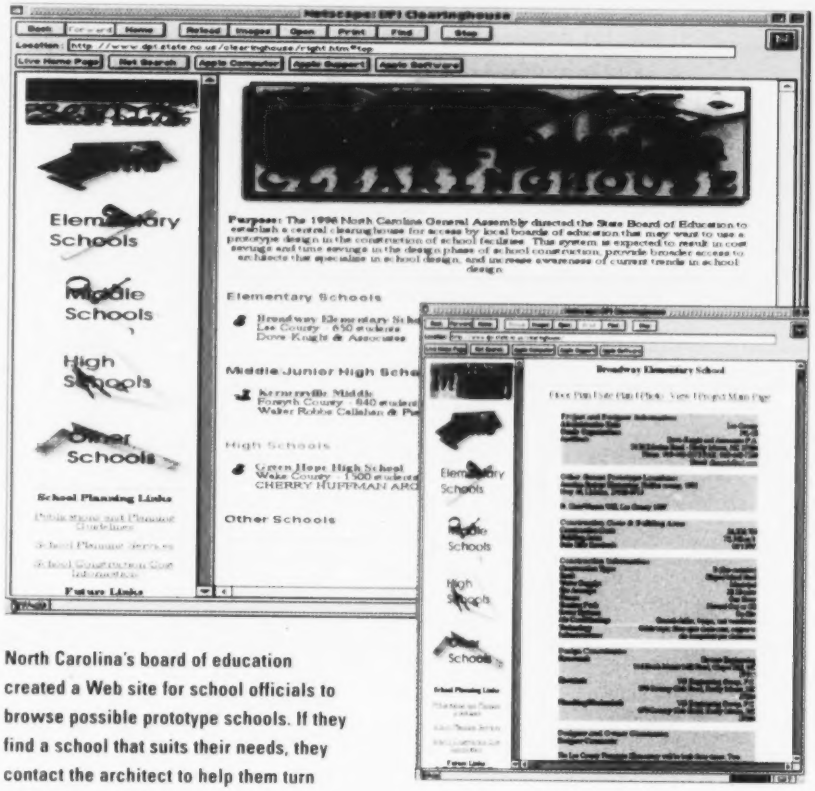
Any prototype plan or kit of parts must be modified to adapt to local terrain, soil, north-south orientation, traffic flow, and availability of water, sewer, and utilities. Both are created to be highly flexible for site adaptation.

North Carolina is one example where prototype plans have been used successfully. School boards in the state may refer to a prototype clearinghouse the North Carolina General Assembly directed the State Board of Education to set up in 1996. It is Web accessible (*www.dpi.state.nc.us/clearinghouse*). If school officials find a design they like, they can contact the architect of record who retains the copyright to the design as well as the professional liability associated with using the documents. This system realizes some savings in time and money through economies of scale. And the architect is still involved, providing the services you need.

What you want to avoid is the temptation to use stock plans without professional services or simply buying "temporary" classrooms. These quick-fix approaches seem to be cheap and efficient. The cost is actually much higher than architect-designed facilities over the life of the school, especially when you consider the low quality of the learning environment.

Another point to consider is that, as the North Carolina experience has shown, prototype designs many times do not offer the economy of scale for renovations or additions that they do for new construction. In Chicago, on the other hand, with its higher concentration and relatively consistent building materials and methods, prototypes have proven an efficient way to renovate building systems such as roofs and windows (where the need for renovation is often the greatest).

Schools that enhance learning. Connected to but far beyond the realm of construction and operating costs is the importance of schools that enhance learning. Every facility-related dollar saved is a dollar earned for teachers and teaching tools. School spaces designed to maximize efficiency in circulation, access, and multiuse allow more time and energy for learning activities. Classrooms designed for a particular school district's computerization plan will allow precisely the wiring, lighting, and configuration of spaces that will work right the first day the school opens and throughout the facility's life cycle as technology and needs change.



North Carolina's board of education created a Web site for school officials to browse possible prototype schools. If they find a school that suits their needs, they contact the architect to help them turn vision into reality.

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About This Guide

The success students have in school — measured in terms of high test scores, low truancy, employment rate, close parent-student-faculty interaction, or whatever scale you may choose — is affected by many factors, including the quality of instruction, instructional time and materials, parental involvement, and how students feel about school. The very fact that you are talking about the educational welfare of your children and community — as parents, teachers, and neighbors — is an indication that your school system is on solid footing.

It is a daunting task to discuss how learning is affected by physical factors such as building age, ventilation, visual factors, color of interior of facilities, amount of space, design of space, lighting, site size, building use, building maintenance, special instructional facilities, school size, site location, security features, access for individuals with disabilities, and aesthetic appeal.

To make the task more manageable, this guide sets out six elements for discussion: *structural condition, environmental quality, size and capacity, safety and security, site location, and symbolic value and aesthetics.*

Facility performance goals are certainly important. Always keep in mind, though, that student achievement is the central concern.

Structural Condition

Sixty percent of U.S. schools need extensive repair or replacement of at least one major building system, such as a roof or boiler.

Almost 14 million students were compelled to attend school in buildings regarded as below standard or even dangerous.

Students in out-of-date schools scored 5.3 percent lower on standardized tests (after controlling study results for socioeconomic status).

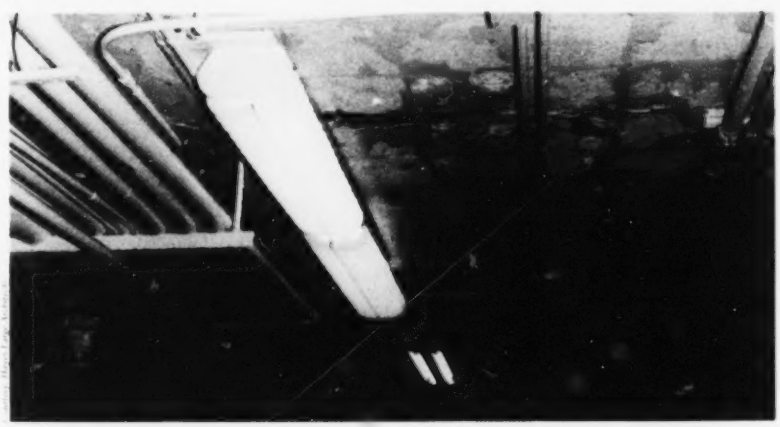
The quality of facilities may be related to student attitudes toward school, self-esteem, security, comfort, and prosocial behavior.

Parental involvement is related to the condition of school buildings and student achievement.

How much instructional time is lost or compromised as a result of building-related problems?

Are students more likely to be absent when they are compelled to attend schools in poor condition?

Are parents less likely to move into neighborhoods where schools are perceived to be outdated or deteriorating?



Carrick High School, Pittsburgh, (Hayes Large Architects): **The Carrick High School in Pittsburgh faces problems familiar nationwide. Access and circulation need to be brought up to Americans with Disabilities Act guidelines. Windows need to be replaced and made energy-efficient. There are exposed pipes in the dimly lighted corridors. Classrooms need to be rewired for computers. Space use is inefficient, and there is a critical need for storage space.**

The school has commissioned Hayes Large Architects to provide planning and design for a $27 million addition/alteration that will add 38,000 square feet to the existing 192,000-square-foot school to bring it up to a level that supports the rising standards of the curriculum. The new design accommodates state-of-the-art laboratories, computer laboratories, and classrooms. A fiber-optic main cable will support six computers per classroom and 25 to 30 computers in specialized business and math classrooms.

The architect is specifying environmentally safe cleaning products and energy-conserving building materials.

Environmental Quality

Consider air quality, thermal factors, lighting, and noise level.

Most states report inadequate HVAC systems and lighting as the key environmental problems in schools. The primary thermal problem is cooling, not heating.

Be alert for tightly sealed buildings, use of allergy-promoting floor coverings, and toxic emissions from cleaning fluids, paint, and other frequently used substances.

There is a relationship between the quantity and quality of light and visual performance. The quality of light is related to brightness, width of spectrum, and glare.

Exposure to full-spectrum lighting, such as daylight, has been associated with better school attendance, greater concentration, more positive moods, and better scholastic performance.

Effective teaching is partly a function of acoustic design. Open-design schools don't provide the acoustic privacy necessary for student-teacher communication and student concentration on assignments.

Especially for schools built in the late 1950s to mid-'60s, asbestos may be present in insulation, ceiling panels, floor coverings, lab surfaces, and concrete. Abatement will be necessary before renovation work begins.

Size and Capacity

The ideal high school size seems to range from 400 to 900 students. Students tend to learn less in smaller schools and considerably less in larger schools.

To create a sense of "smallness," many large secondary schools have subdivided into "houses," each with its own student body, faculty, and administrator.

The typical high school contains about 150 square feet per student, the typical junior high about 130 square feet, and the typical elementary school about 110 square feet.

The relation between small class size (fewer than 20 students) and higher student achievement is strongest in first through third grades.

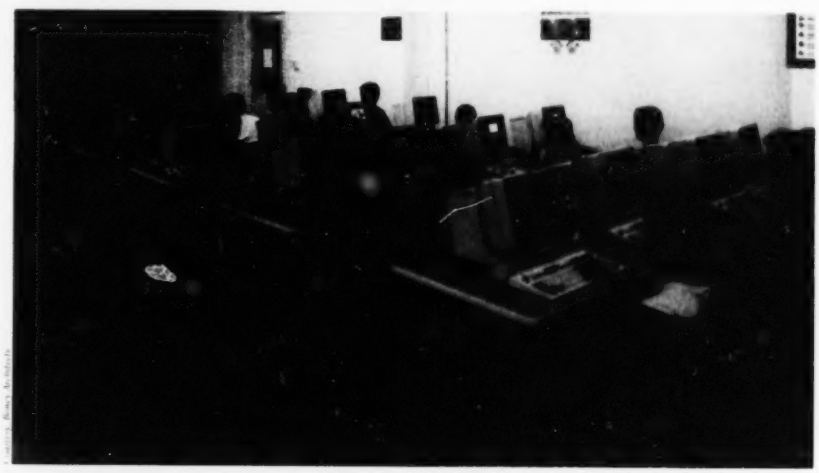
The traditional one-size-fits-all classroom is becoming obsolete. Special areas may be appropriate for music, physical education, vocational education, home economics, laboratory sciences, foreign languages, and mathematics.

Desks for individual students are being replaced by work stations and furniture appropriate for cooperative learning groups.

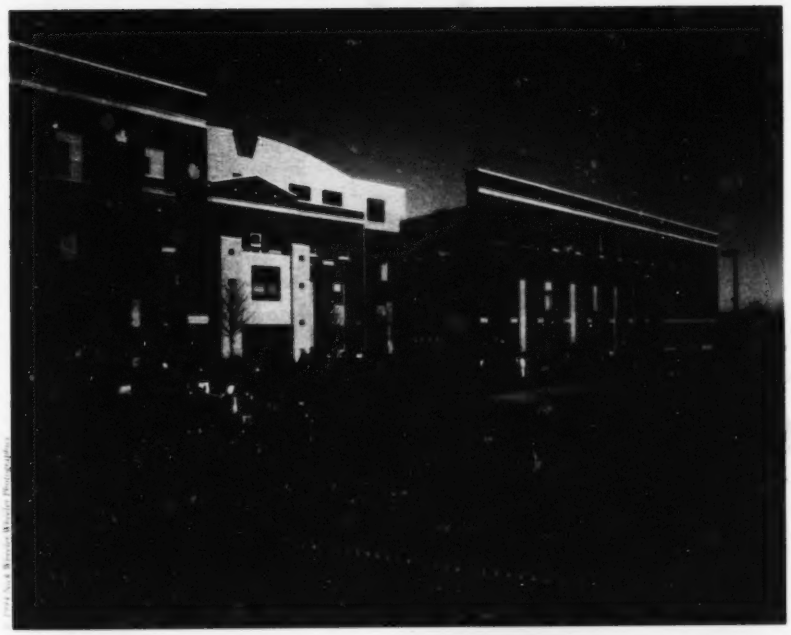
An array of spaces of various sizes may include central gathering places; presentation arenas; work spaces for groups of different sizes; quiet areas for one-to-one learning sessions; independent-study nooks; and offices where teachers can test and counsel individuals, organize individualized study programs, or phone parents.

Computers are reducing the need for large libraries and increasing the importance of networked access in classrooms or satellite computer labs.

Especially in multiuse schools that include community services, consider offices for social services workers, clinics, and community centers; open school-based libraries and computer labs for adults; day-care centers; parent education facilities; and special reception areas. Such spaces encourage parental involvement and volunteerism.

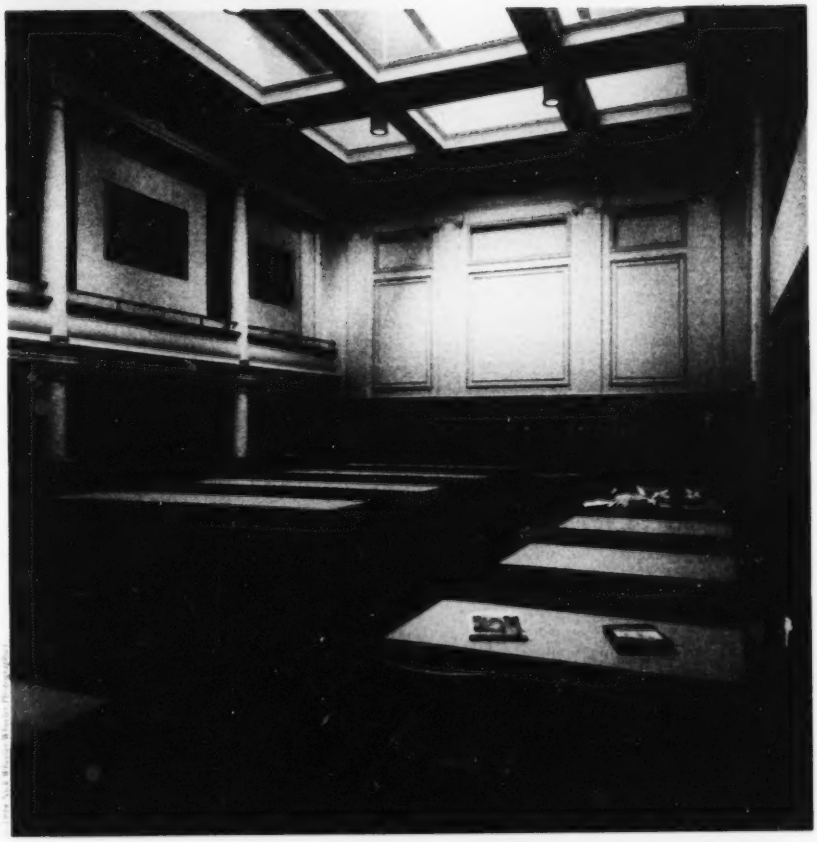


Computer work stations are taking the place of rows of desks, as in this Rutherfold County, N.C., middle school by Boney Architects.



Collins Middle School, Salem, Mass. (Earl R. Flansburgh + Associates Inc.): Salem, Mass., consolidated its two middle schools into one in a 150,000-square-foot former high school, which was fully renovated and expanded with a 90,000-square-foot addition. The school serves 1,100 students as part of a comprehensive $39 million program.

To reduce the impact of such a large scale, the school is divided into three separate components ("wharfs"), each accommodating sixth, seventh, and eighth graders. Architect Earl R. Flansburgh + Associates, Inc., gave the school unity through the centralized library/multimedia area (right). "The architect really got the point that we wanted the media curriculum to be central," said Coprincipal Mary Manning. "Each wharf is tied together with the two-story square midbuilding, with full access to storage, magazines, everything."



Safety and Security

Smaller schools tend to have fewer behavior problems.

Where there are fewer students, it is easier for teachers to get to know each one and build constructive teacher-student relationships. And school employees can more easily recognize strangers on campus and supervise students not in class.

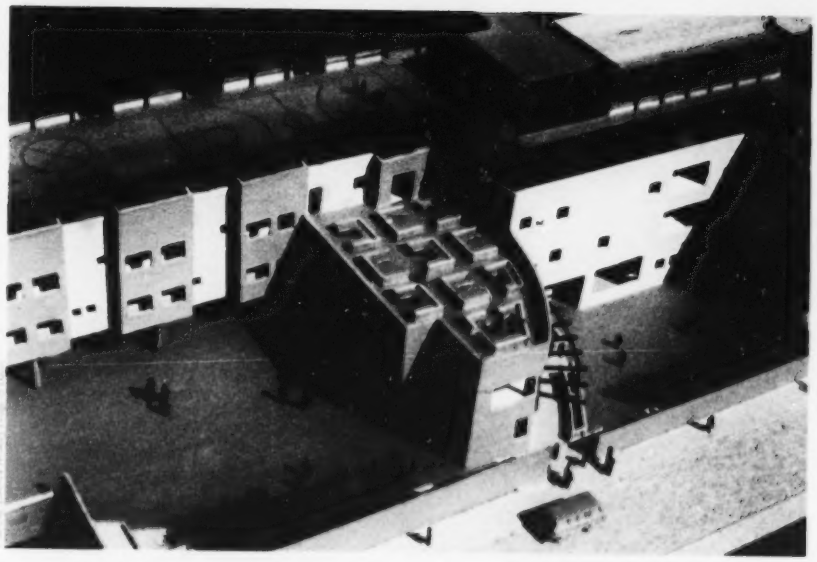
Good lighting and clear sight lines along hallways, in locker rooms, and other areas where adult supervision may not be continuous can reduce the likelihood of inappropriate behavior, as can access control, graffiti-resistant surfaces, and elimination of nooks and crannies that are difficult to monitor.

Design elements that help faculty to watch student activity include administrative offices that overlook courtyards and school entrances, teachers' offices distributed throughout the building with glass walls looking into stairwells and corridors, and corridor windows.

It's important to note that students will take care of a school they are proud of.

On the other side of the coin: At what point does concern for safety result in design decisions that actually promote misconduct and challenges to authority?

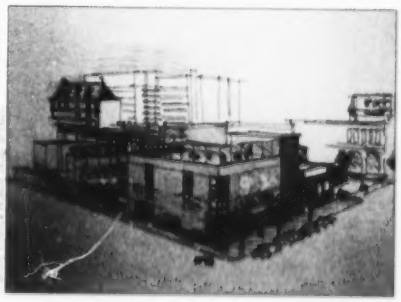
A state-of-the-art, multiuse facility properly located can stimulate the revitalization of a declining neighborhood.



Tenderloin Elementary School, San Francisco (Esherick Homsey Dodge & Davis): **When San Francisco's Tenderloin District needed a better school facility, they had a champion in Joseph Esherick, FAIA, the 1989 recipient of one of the highest architectural honors in the world, the AIA Gold Medal. The impoverished community needed a school that also supported the sense of community. They needed a safe place that still had an open-door, welcoming feeling.**

The multiuse facility that opened in September 1998 (architect's model, above) includes services for adults such as counciling and dental/medical care. The interior design strengthens community identity as well. Tile decorations tell stories related to the heritage of community members. And a rooftop garden provides rare greenspace.

As a positive focal point for the community, the school presents a place of refuge in a rough, bleak neighborhood. If the school is successful in creating a sense of safety and well-being, it will draw local people together in an upwardly spiraling sense of community.



Samuel Shepard Jr. Gateway Educational Park, St. Louis (Kennedy Associates Inc.): **Located near downtown St. Louis, Gateway is a three-school complex that takes full advantage of its site to enhance the learning experience. Students at the magnet school gain hands-on orientation to math and science. The central grounds feature an array of play areas that also illustrate fundamental principles in areas such as geometry, ecology, and physics. Students learn by hearing, touching, seeing, and doing. Even teachers of children with special learning needs report improved learning and retention from their students since moving into Gateway.**

Site Location

Location affects many things, such as travel time to and from school, proximity to learning resources, the diversity of the student body, access to parents, and patterns of community development.

A comprehensive outlook involves community-building initiatives for economic, service, education, and physical development.

Schools can play a central role in determining where people with children live.

Some corporations will work with the school district to create satellite learning centers for the children of employees.

The natural environment around a school has great teaching potential as learning landscapes, with adjacent wetlands, nature trails, gardens, and playground motifs.

Schools can take advantage of stimuli-rich settings such as proximity to zoos and museums. There is value in having access to rich and varied experiences and many knowledgeable adult mentors.

Nearby businesses, public buildings, and parks permit easy student access. Such placement may call for the renovation of existing facilities rather than new construction.

If large schools cannot be accommodated in business districts and novel sites, is it better to sacrifice size for location?

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Symbolic Value and Aesthetics

Schools often define a community's boundaries.

Schools often symbolize certain qualities, values, aspirations, and experiences for individuals. In a harsh neighborhood, school can mean opportunity, hope, stability, and a safe haven in a world of insecurity and transience or it can symbolize failure and oppressive adult authority.

Aesthetics encompass the qualities that help determine the symbolic value of the structures and forms that human beings experience.

Students compelled to attend unattractive and poorly maintained schools may feel diminished and less valued as a consequence. Our school facilities are a tangible symbol of our commitment to education, and the message is not lost on students.

One message is conveyed when vocational technical classrooms are up front with glass walls for everyone entering to see the student accomplishments. Another message is sent when vocational technical instruction is relegated to an annex or the rear of the school.

Miami Edison Middle School, Miami (Heisenbottle Architects): **Dating to the 1920s and '30s, this former high school is an excellent example of the regional period of architecture, which the school board wished to preserve. They also required larger, improved areas for administration; a media center; and student-services, skill-development, and resource rooms.**

The design transformed a deteriorated landmark back to its original grandeur and brought its function into the 21st century with a complete range of student services.

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"AIA Contract Documents: The Foundation for Successful Public Building Projects," newly published by the AIA. (no charge, call 800-365-2724)

"Becoming Good Neighbors: Enriching American Communities by Design," a television show produced by The American Architectural Foundation (AAF) for broadcast by PBS stations, which includes a look at school improvement. To order the video and a resource kit ($24.95) fax (202) 626-7420. For information on bringing architecture into the school curriculum, visit *www.amerarchfoundation.com.*

"Does It Matter Where Our Children Learn?" by Daniel L. Duke, the Thomas Jefferson Center for Educational Design, the University of Virginia, February 1998. ("A Discussion Guide for Planning a School" is based in large part on this white paper commissioned by the National Research Council of the National Academy of Sciences and the National Academy of Engineering.)

Educational Facilities: 1995-96 Review, from the AIA Committee on Architecture for Education, highlights schools that are advancing the art and science of school design.

"Learning by Design," annual review of school-improvement projects published by the National School Boards Association.

"Qualifications-Based Selection, A Process for the Selection of Architects by Public Owners," a guide from the AIA, January 1992.

"Reducing Class Size: What Do We Know," a May 1998 report from the U.S. Department of Education.

"Selecting and Working With an Architect," AIA North Carolina, Raleigh 1997.

"You and Your Architect," a newly revised guide on working with an architect ($3, call 800-365-2724)

The AIA Committee on Architecture for Education. The American Institute of Architects requires its members to undertake and record their continuing professional education. A primary source of this professional development comes through the AIA professional interest areas. One is the Committee on Architecture for Education, which unites thousands of architects across the country who specialize in school design. Committee members work together and with school representatives to advance the science, art, and craft of designing top-notch and up-to-date learning facilities within the constraints of tight budget. For more information about the committee, call 800-242-3837 or visit the Web site, *www.aiaonline.com, <e-architect>, <professional interests>, <pia directory>, <committee on architecture for education>.*

Call the nearest AIA component staff for help in finding an architect experienced in school design, building codes, and other construction considerations in your area.

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Birmingham: (205) 322-4386, fax: (205)322-434"

Montgomery: (334) 264-3037, fax: (334) 263-6377, aiaalabama@mindspring.com

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Arizona

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San Jose: (408) 298-0611, fax: (408) 298-0619, email: AIASCV@flash.net.com

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Kentucky

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London: 011-44-17 16-36-2006, fax: 011-44-171-730-8922

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Visit the ProSale Web site for a searchable listing of U.S. architecture firms and their specialties. www.proconnect.com, <illegible>

For bulk orders of this booklet, "Renvigorating Our Schools," call 800-365-2724, order #WS06, $1 per copy.

Local school boards across the nation are addressing the challenge of providing modern school facilities that will contribute to the achievement of their students. Renvigorating Our Schools is an excellent resource — not only for school boards — but for anyone concerned with creating excellent learning environments for our children and communities.

Anne L. Bryant
Executive Director
National School Boards Association

I applaud efforts like Renvigorating Our Schools *that are aimed at helping communities understand these complex issues and the strategies that may be employed to address local school building design and construction needs.*

Richard W. Riley
Secretary, U.S. Department of Education

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